REMARKS

Applicants thank the Examiner for the consideration given the present application. Upon entry of the claim amendments herein, Claims 1-9, 11-21 will be pending. Claim 1 has been amended and Claim 10 has been cancelled. Claims 22 and 23 were previously cancelled. No new claims have been added, nor has any new matter been added.

In particular, Claim 1 has been amended to add the language "selected from the group consisting of oils, opacifiers and mixtures thereof" after the term "enhancer material." Support for this amendment is found in Claim 10 as originally filed. Additionally, Claim 1 has been amended to add the language "wherein the composition is substantially free of emulsifiers and surfactants." Support for this amendment is found in the specification at page 22, first paragraph under the heading "Beverage Emulsions."

Synopsis of the Present Invention

The present invention relates to processes for preparing stabilized beverage compositions. Stability is a critical parameter for compositions that comprise one or more insoluble materials such as, for example, oils and opacifiers. In an unstable composition, changes may occur over time, which result in undesirable phase separation, flocculation or aggregation.

Accordingly, stability of compositions is important since the materials thereof may provide benefits such as, for example, opacity or cloud (*e.g.*, for the purpose of providing a desired appearance), nutrition or other efficacious benefit, and mouthfeel. When materials, which would normally deliver one or more of these benefits, are not stable in the corresponding composition, these benefits will be lost. Therefore, in order for the consumer to reap the benefits offered by these beverages, it is important that these beverages are stable. Moreover, in order for such compositions to be commercially useful, the compositions must be stable over an extended period of time, *e.g.*, for at least about 75 days.

Surprisingly, the present inventors have discovered that by combining a pectin compound and an alginate compound in accordance with the processes described herein, a unique three-dimensional network is provided that stabilizes and supports such insoluble materials as oils, opacifiers, and the like. Because the present invention is generally concerned with stabilizing low-density oils (which generally float and aggregate in liquid) and high-density enhancer materials, such as titanium dioxide, (which generally sink in liquid), without the aid of surfactants or emulsifiers, the NP/M used in the process is an important factor. Without mixing the ingredients of the present invention within the specific range of NP/M disclosed herein, the three-

dimensional pectin-alginate network formed, if formed in the first instance, would be incapable of supporting and stabilizing such materials. Simply combining the ingredients and mixing them together without regard for the NP/M, would not provide the desired stabilization. Indeed, if the NP/M is too low, the pectin-alginate network will not properly form, and if the NP/M is too high, the network will be destroyed. Thus, to properly stabilize the oils and high-density opacifiers preferably used herein, while keeping the composition substantially free of emulsifiers and surfactants, it is necessary to mix the present ingredients as disclosed herein.

The Rejection under 35 U.S.C. § 103

The Examiner has rejected the claims under 35 U.S.C. § 103(a) as being obvious in light of several references. Specifically, the Examiner has rejected Claims 1-9 over Barey, U.S. Patent No. 5,866,190, issued on February 2, 1999 (herein "Barey") or Young et al., U.S. Publication No. 2002/0160086, published on October 31, 2002 (herein "Young"); Claims 10-21 over either of the above references, further in view of Mezzino et al., U.S. Patent No. 4,529,613, issued on July 16, 1985 (herein "Mezzino")

Barey describes a composition for stabilizing non-milk beverages containing insoluble components, particularly those based on fruits and/or vegetables (*i.e.* pulp), made by combining pectin and alginate to form a three-dimensional network. In contrast, Young discusses stabilized acidic milk-based beverages that include a stabilizer, which may be gum Arabic, gelatin, xanthan, locust bean, propylene glycol alginate, pectin and the like. Both Barey and Young also claim processes for formulating their respective products. Mezzino discusses both a dry cloud system for producing beverages with enhanced mouthfeel containing a pectin, titanium dioxide and preferably a dextrin, and a dry beverage mix containing the cloud system.

In general, the Examiner states that Barey teaches a process for making a drink by combining pectin and alginate with sugar and acidifying the composition with fruit juice or citric acid. Likewise, the Examiner relies on Young's disclosure to teach an acidic beverage containing milk proteins and stabilizers, two of which may be pectin and propylene alginate. While the Examiner admits that neither reference discloses dispersing the beverage components at a particular range of NP/M, or for a particular time, the Examiner concludes that "nothing new or unobvious is seen in mixing the ingredients at particular times or NP/M's..." and that "it would have been obvious to mix for whatever time which would keep the enhancing material in suspension." Additionally, the Examiner states that Young teaches both high shear conditions for a short period of time and low shear conditions for a longer period of time, thus, the present NP/M would be obvious in view thereof. The Examiner also relies on Young to teach the inclusion of

vitamins and minerals and states that "nothing is seen that the vitamins and minerals are not stabilized." Finally, the Examiner states that there is nothing to indicate that the vitamins and minerals of Young would not be supported by the network of Barey.

Moreover, the Examiner relies on Mezzino as teaching the inclusion of titanium dioxide and pectin in a dry cloud system, which is used to formulate a dry beverage mix. In general, the Examiner states that even though Mezzino discloses a dry mix, it is known to add an enhancer, such as the titanium dioxide, to pectin before adding it to other materials to prevent precipitation from the dry mix. Therefore, the Examiner concludes that it would have been obvious to add titanium dioxide to the compositions of Barey or Young since it is known that titanium dioxide will precipitate out of solution if mixed without first forming a complex and because the dry mix of Mezzino can be mixed with water to form a beverage. Applicants respectfully disagree with all of the foregoing assertions.

If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is also nonobvious. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Presently, Claim 1 is an independent process claim from which all remaining claims depend. Applicants respectfully assert that, for the following reasons, Claim 1 is nonobvious, and thus, the remaining claims are also nonobvious.

The Examiner bears the burden of factually supporting any prima facie conclusion of obviousness. In determining the differences between the cited art and the claims, the question is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *See* Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530 (Fe. Cir. 1983). Inventors of unobvious compositions, such as those of the present invention, enjoy a *presumption* of non-obviousness, which must then be overcome by the Examiner establishing a case of prima facie obviousness by the appropriate standard. If the Examiner does not prove a prima facie case of unpatentability, then without more, the Applicants are entitled to grant of the patent. *See* In re Oetiker, 977 F.2d 1443.

Applicants respectfully assert that the Examiner has not satisfied the burden of establishing a prima facie case of obviousness in regards to the present invention. To establish a prima facie case of obviousness under 35 U.S.C. §103, the Examiner must meet three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the cited art reference (or references when combined) must teach or suggest *all* the claim limitations. *See*, for example, In re Vaeck, 947 F.2d 488 (Fed. Cir. 1991). Applicants

respectfully assert that the Examiner fails to establish any of the foregoing criteria, and thus, fails to establish a prima facie case of obviousness.

1. No Motivation to Modify or Combine References

Applicants respectfully assert that there is no suggestion or motivation to modify the references or combine reference teachings. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the cited art also suggests the desirability of the modification or combination. See *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990).

There is no suggestion or motivation to modify either Barey or Young, such that the present invention would be obvious. Barey teaches beverage compositions with stabilized fruit or vegetable pulp dispersions while Young teaches beverage compositions with stabilized milk protein dispersions. Neither Barey nor Young disclose a process for stabilizing very low-density or very high-density enhancer materials, such as the oils and opacifiers of the present invention in the first instance, much less stabilizing such materials without the use of emulsifiers or surfactants, which the claims, as amended herein, require. See *Specification*, pg. 14 and 22. As explained above, without mixing the ingredients of the present invention within the specific range of NP/M disclosed herein, such enhancer materials would not be properly stabilized. The oils would float to the surface of the beverage composition and/or aggregate, while the opacifiers would quickly precipitate. As neither Barey nor Young is concerned with stabilizing beverages containing very low-density or very high-density enhancer materials, there is no motivation to modify either reference such that the NP/M claimed herein is obvious in view thereof.

In addition, the Examiner suggests that Young discloses the use of both high sheer for short periods of time and low shear for longer periods of time, thus making the present invention obvious. However, Applicants respectfully assert that this reference cannot be used, either alone or in combination with the other cited art, to make the present invention obvious because Young is concerned only with stabilizing milk proteins rather than the oils and opacifiers of the present invention. Thus, while two distinct sets of shear conditions may be useful in stabilizing such milk proteins, the oils and opacifiers presently used require the use of the particular NP/M disclosed herein for stabilization. Young fails to teach this specific NP/M range taught presently, and unless the Young reference was concerned with stabilizing the oils and opacifiers used herein, which it is not, it would not be obvious to modify Young to reach those particular parameters. Therefore, there is no reason to modify Young or combine Young with other references.

Moreover, there is no motivation to combine the teachings of Mezzino with either Barey or Young in the first instance. A cited art reference must be considered in its entirety, i.e. as a whole, including portions that would lead away from the claimed invention. See *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983). Mezzino

specifically states that in order to stabilize the titanium dioxide in the reconstituted beverage compositions disclosed therein, it is "critical" that the titanium dioxide is first added to an aqueous solution of maltodextrin and pectin and the resultant suspension be dried concurrently. See *Mezzino*, col. 6, lines 30-45. Thus, it is clear that for the dry compositions of Mezzino to remain stable for any length of time once added to a liquid, the titanium dioxide must first be mixed with an aqueous solution of maltodextrin and pectin and dried. Applicants again respectfully point out that the present invention does not *require* the inclusion of maltodextrin in the beverage compositions disclosed herein. Thus, since maltodextrin and the like are required for the product of Mezzino, and since the present invention provides a stable product without maltodextrin, contrary to the teachings of Mezzino, Applicants respectfully assert that Mezzino in fact, teaches away from the present invention.

Moreover, it is not necessary to first dry the titanium dioxide of the present invention in order to achieve a stabilized beverage. Even assuming for the sake of argument, that one would be motivated to combine Mezzino with Barey or Young, the titanium dioxide would still have to be dried prior to usage for it to remain properly stabilized. This is still in contrast to the present invention, which requires no drying step. Thus, it is respectfully asserted that Mezzino is not a proper reference since it cannot be modified or combined with other references to make the present invention obvious in view thereof.

Additionally, Mezzino is concerned only with a dry clouding agent for later use in reconstituted beverage compositions. On the contrary, the present invention, as well as Barey and Young, relates to a stabilized beverage composition. Because these are two distinctly different products, Applicants respectfully assert that, for this additional reason, there is no motivation to combine Mezzino with either of the other cited references.

Thus, for all the foregoing reasons, Applicants respectfully assert that there is no motivation or suggestion to modify references or combine reference teachings. Therefore, the first step in establishing a prima facie case of obviousness has not been satisfied.

2. No Likelihood of Success

There is no likelihood of success. It is alone not enough that the cited art suggest the combination recited in the claims; there must also be some reasonable expectation of success for the suggested combination. See *In re Vaeck*. For the reasons stated above, the cited art fails to provide the requisite likelihood of success. Namely, neither Barey nor Young is concerned with the very low-density or very high-density materials used in the process of the present invention.

Specifically, neither reference teaches the use of oils, which generally float and agglomerate in liquid, or opacifiers, which tend to sink rapidly in liquids. Thus, since Barey and Young deal with entirely different materials, there is no likelihood that the present invention would be successful in view thereof.

Moreover, neither Barey nor Young suggests the particular NP/M range disclosed herein. Again, without a focus on stabilizing the oils and opacifers of the present invention, it would not be obvious to use such a specific range. Therefore, because neither of these references is concerned with the materials of the present invention, there is no likelihood of success that the present NP/M ranges would effectively stabilize the present beverage compositions.

Additionally, Applicants respectfully assert that Mezzino does nothing to remedy these deficiencies in Barey and Young because Mezzino is concerned with a dry beverage mix, rather than a stabilized beverage composition. As pointed out previously, Mezzino requires premixing and drying steps prior to the addition of the clouding agent disclosed therein with water. Since the present invention stabilizes beverages without premixing and drying, Mezzino, for this additional reason, fails to provide any likelihood of success.

Finally, none of the cited references teach stabilizing compositions without the use of emulsifiers and surfactants like the present claims, as amended herein.

Thus, without a focus on the particular materials and medium disclosed herein, it cannot be said that the cited references suggest that the present invention, and parameters thereof, would be successful.

3. No Teaching of All Claim Limitations

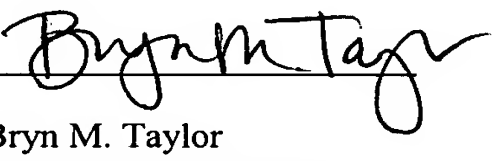
There is no teaching of all the claim limitations. Three claimed features of the present invention are: 1) the use of very low-density or very high-density enhancer materials; 2) dispersing the beverage components at an NP/M of from about 20 Watt/kg to about 75 Watt/kg; and, 3) as amended herein, beverage compositions that are substantially free of emulsifiers and surfactants. Neither Barey nor Young teach any of these features. Moreover, even though Mezzino arguably discloses the incorporation of titanium dioxide in clouding agents, Mezzino is concerned only with dry clouding agents. Thus, there is no teaching in any of the references of a stabilized beverage containing the low-density or high-density enhancer materials disclosed and claimed herein. Additionally, because Mezzino teaches dry mixes, there is no discussion of NP/M ranges for mixing beverage dispersions. Thus, Mezzino does nothing to remedy the deficiencies in either Barey or Young with respect to mixing power. Finally, none of the cited art teaches stabilized beverage compositions containing oils and opacifiers and that are substantially

free of emulsifiers and surfactants. For these reasons, Applicants respectfully assert that there is no teaching of all the claim limitations, and therefore, the third step in establishing a prima facie case of obviousness has not been satisfied.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the Examiner's rejection under 35 U.S.C. § 103(a) is improper. Reversal of such rejection is therefore respectfully requested.

Respectfully submitted,

By 

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Date: May 18, 2004

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